

As to the Office's particular queries, the term "photographic emulsion paper" finds support in the section entitled *Use and Improvements of the First Embodiment in the Field of Emulsion-Based Photography* which spans pages 14 - 17 of the substituted pages. The term "printing kiosk" finds support, e.g., at page 87, lines 14 - 31.

Although not specifically requested, applicant notes exemplary support for other claim terms as follows:

"Chemical" is found in various claims. Photographic emulsions are chemical coatings, as is familiar to those skilled in the art. (Attached as Exhibit B is an excerpt from *How Things Work* detailing the chemical composition of a typical emulsion film as including silver bromide with various sensitizers such as gold, mercury, heavy metal ions, and sulphide ions.)

Certain of the claims specify that the character of the chemical coating is changed by optical exposure. Again, this is a familiar phenomenon to those skilled in the art. (Exhibit B reviews how light activates silver bromide crystals. Crystals that have been so activated are reduced in photographic developer agents to black metallic silver; unactivated crystals are not.)

"Steganographic" encoding techniques to embed binary data are disclosed throughout the substitute specification.

Exposing an emulsion media to pre-mark same finds support, e.g., at page 15, lines 19-29.

The pseudo-random noise signal of claim 35 finds support, e.g., at page 6, lines 1-6, page 19, line 17, and page 27, line 32 through page 28.

The "calibration signal" of claim 39 finds support, e.g., in the rings/knots disclosed between pages 49 - 57, and by the subliminal graticules disclosed between pages 81 - 87.

The encoding of a substantially transparent medium (e.g. claim 47) is disclosed, e.g., at page 18, lines 24-26.

The card- or paper-like article having a substrate and various layers (e.g. claim 51) finds support in the discussions relating to photographic papers and films (substitute specification, pages 14-17). As illustrated by Exhibit B, those skilled in the art recognize that photographic film typically has an acetate substrate, and an emulsion layer thereon.

Additional support is found at page 18, lines 24-26 (which discusses clear plastic covering of drivers licenses and the like).

Detection of a control signal from a photograph notwithstanding rotational misalignment (claim 65) finds support, e.g., at pages 81-87.

The use of statistical analyses in decoding (claim 66) finds support, e.g., at page 13, lines 2-4, and page 20, line 33 through page 23, lines 27.

The use of spectral analysis (claim 68) finds support, e.g., at page 82, line 27 through page 83, line 5.

Transformation of the image data to a spatial frequency domain finds support, e.g., at page 84, lines 29-31.

Rejection Over Art

In the prior art, a photograph could be taken to a duplication kiosk (of the sort commonly found in copy shops) and freely copied. There was no means for the consumer to be alerted that the photograph was copyrighted, and no means to prevent its copying if it was.

This worked a considerable financial hardship on professional photographers, who rely on professional duplication of their photographs as a source of revenue. It also put consumers in the awkward position of not knowing whether they were violating a copyright, nor being able to do anything to properly compensate a copyright holder.

According to various embodiments of the claimed combinations, these problems are redressed. Photographic film and paper can be pre-marked -- during manufacture -- with essentially human-imperceptible patterning having digital information encoded therein. This information can be used to identify the photographer who took the picture, or can include other data. (See, e.g., substitute specification page 31, lines 21-30.) Photo duplication kiosks can sense the presence of such marking and interrupt copying. The marking can be examined to determine the proprietor of the photograph, and appropriate royalty payments can be made.

No prior art addressed these concerns and provided these capabilities.

The Action states that Kodak has, for many years, watermarked its photographic papers substantially as claimed. The dependent claims are likewise dismissed as "conventional."

Applicant respectfully requests citations to art supporting these assertion. MPEP 2144.03.

Applicant is aware of no prior art effort by Kodak to "watermark" its paper as claimed. Applicant is aware, however, that Kodak filed a U.S. application, Serial No. 08/565,804 (published as EP 777,197, attached), directed to closely related subject matter. But that application was filed *after* applicant's priority dates. More particularly, the Kodak application was filed November 30, 1995. This was shortly *after* the present applicant disclosed his inventive work to Kodak's technical staff at a meeting in Rochester, N.Y. Applicant's inventive work, in contrast, claims various priority dates back to March, 1994. (Applicant's cited section entitled *Use and Improvements of the First Embodiment in the Field of Emulsion-Based Photography*, for example, was included in its entirety in applicant's March 17, 1994, filing, so claims drawn to this subject matter are entitled to a March, 1994, priority date.)

Applicant is aware that the reverse side of Kodak print papers typically have a *visible* Kodak logo. Attached as Exhibit A is a photocopy of the reverse of an exemplary paper showing repetitively printed logos "KODAK - Official Sponsor of the Olympic Games" and "Kodak Image Magic." However, these printed logos do not meet the claimed requirements.

Claim 23, for example, requires that the patterning is "substantially human-imperceptible ... after said paper is developed." The Kodak branding is fully visible. Likewise, claims 27, 32, 44, 47, and 51 specify that the signal is *steganographically* encoded. The Kodak branding is not. (Steganography refers to hidden data transmission; Kodak's representation of its logos is not hidden.)

Claims 24, 25, 33, and 62 make reference to a copy control signal, or a machine responsive thereto. Again, no *prior* art by Kodak is known. However, again *following* applicant's meeting with Kodak, Kodak filed an application directed to a duplication kiosk responsive to a symbol on an image-being-copied to interrupt the kiosk from copying. (The preferred embodiment employed a gold foil [©] logo in the corner of the image itself.) Again, an EP counterpart of that application (EP 766,449) is attached for the Examiner's interest.¹

¹ Neither of the enclosed Kodak EP publications is prior art as a printed publication. Nor are any of Kodak's claimed U.S. priority applications provisional prior art under Section 102(e). However, the earliest

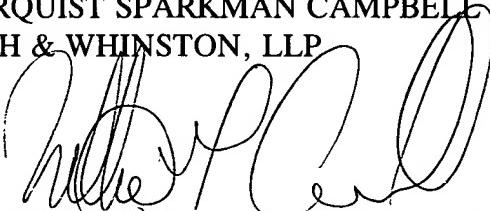
Other claims include other limitations distinguishing Kodak's work. But these further distinctions are not belabored since no art teaching or suggesting same has been cited.

Claims 22-24 and 42 have been rewritten in independent form to include the limitations of claims 21 and 41 (now canceled) from which they respectively depended. The claims are otherwise unamended.

Favorable reconsideration and passage to issuance is solicited.

Respectfully submitted,

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priority date for EP 766,449 is within a week of the September 25, 1995, filing date of one of applicant's priority applications (Application No. 08/534,005) and EP 766,449 includes an extensive software code listing which could lead the Examiner reasonably to conclude that Kodak reduced to practice at least some aspect of its disclosed technology prior to applicant's September 25, 1995, filing. Accordingly, the Examiner is invited to consider whether such an apparent reduction to practice would raise a Section 102(g) issue as to any claim.

Candidate claims would appear to be claims 62 and 63, which are directed to kiosks responsive to copy control signals. However, each of these claims includes language distinguishing work disclosed in the Kodak EP 766,449 publication. For example, each claim requires the kiosk to detect the presence of a *steganographically* encoded control signal. Kodak's gold foil logo is conspicuous, not steganographic. (Claim 25 is directed to a kiosk, but depends from claim 24 which specifies a paper having an auxiliary information signal encoded as a patterned physical characteristic *coextensive* with the paper.) The Kodak gold foil logo is not coextensive with the paper.)

The Examiner is also invited to check whether Kodak's claimed priority applications in EP 766,449 had any *unclaimed* earlier parentage at the USPTO which might qualify as provisional Section 102(e) art.